



PATENT
670001-2002.5

#5

SEQUENCE LISTING

<110> Statens Serum Institut

<120> Hybrids of M. tuberculosis Antigens

<130> 20486US03

<160> 12

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 95

<212> PRT

<213> Mycobacterium tuberculosis

<400> 1

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Glu | Gln | Gln | Trp | Asn | Phe | Ala | Gly | Ile | Glu | Ala | Ala | Ala | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Ile | Gln | Gly | Asn | Val | Thr | Ser | Ile | His | Ser | Leu | Leu | Asp | Glu | Gly |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Lys | Gln | Ser | Leu | Thr | Lys | Leu | Ala | Ala | Ala | Trp | Gly | Gly | Ser | Gly | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Ala | Tyr | Gln | Gly | Val | Gln | Gln | Lys | Trp | Asp | Ala | Thr | Ala | Thr | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Leu | Asn | Asn | Ala | Leu | Gln | Asn | Leu | Ala | Arg | Thr | Ile | Ser | Glu | Ala | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Gln | Ala | Met | Ala | Ser | Thr | Glu | Gly | Asn | Val | Thr | Gly | Met | Phe | Ala | |
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<210> 2

<211> 325

<212> PRT

<213> Mycobacterium tuberculosis

<220>

<221> SIGNAL

<222> (1)...(40)

<400> 2

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Asp | Val | Ser | Arg | Lys | Ile | Arg | Ala | Trp | Gly | Arg | Arg | Leu | Met |
| -40 | | | | | -35 | | | | | -30 | | | | -25 | |
| Ile | Gly | Thr | Ala | Ala | Ala | Val | Val | Leu | Pro | Gly | Leu | Val | Gly | Leu | Ala |
| | | | -20 | | | | | | -15 | | | | | -10 | |
| Gly | Gly | Ala | Ala | Thr | Ala | Gly | Ala | Phe | Ser | Arg | Pro | Gly | Leu | Pro | Val |
| | | -5 | | | | 1 | | | | | 5 | | | | |
| Glu | Tyr | Leu | Gln | Val | Pro | Ser | Pro | Ser | Met | Gly | Arg | Asp | Ile | Lys | Val |
| | 10 | | | | | 15 | | | | 20 | | | | | |
| Gln | Phe | Gln | Ser | Gly | Gly | Asn | Asn | Ser | Pro | Ala | Val | Tyr | Leu | Leu | Asp |
| 25 | | | | | 30 | | | | | 35 | | | | 40 | |
| Gly | Leu | Arg | Ala | Gln | Asp | Asp | Tyr | Asn | Gly | Trp | Asp | Ile | Asn | Thr | Pro |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | 45 | | | | | 50 | | | | | 55 | | | |
| Ala | Phe | Glu | Trp | Tyr | Tyr | Gln | Ser | Gly | Leu | Ser | Ile | Val | Met | Pro | Val | | |
| | | | 60 | | | | | 65 | | | | | 70 | | | | |
| Gly | Gly | Gln | Ser | Ser | Phe | Tyr | Ser | Asp | Trp | Tyr | Ser | Pro | Ala | Cys | Gly | | |
| | | 75 | | | | | 80 | | | | | 85 | | | | | |
| Lys | Ala | Gly | Cys | Gln | Thr | Tyr | Lys | Trp | Glu | Thr | Phe | Leu | Thr | Ser | Glu | | |
| | 90 | | | | | 95 | | | | | 100 | | | | | | |
| Leu | Pro | Gln | Trp | Leu | Ser | Ala | Asn | Arg | Ala | Val | Lys | Pro | Thr | Gly | Ser | | |
| 105 | | | | | 110 | | | | | 115 | | | | | 120 | | |
| Ala | Ala | Ile | Gly | Leu | Ser | Met | Ala | Gly | Ser | Ser | Ala | Met | Ile | Leu | Ala | | |
| | | | 125 | | | | | 130 | | | | | | 135 | | | |
| Ala | Tyr | His | Pro | Gln | Gln | Phe | Ile | Tyr | Ala | Gly | Ser | Leu | Ser | Ala | Leu | | |
| | | | 140 | | | | | 145 | | | | | 150 | | | | |
| Leu | Asp | Pro | Ser | Gln | Gly | Met | Gly | Pro | Ser | Leu | Ile | Gly | Leu | Ala | Met | | |
| | 155 | | | | | 160 | | | | | | 165 | | | | | |
| Gly | Asp | Ala | Gly | Gly | Tyr | Lys | Ala | Ala | Asp | Met | Trp | Gly | Pro | Ser | Ser | | |
| | 170 | | | | | 175 | | | | | 180 | | | | | | |
| Asp | Pro | Ala | Trp | Glu | Arg | Asn | Asp | Pro | Thr | Gln | Gln | Ile | Pro | Lys | Leu | | |
| 185 | | | | | 190 | | | | | 195 | | | | | 200 | | |
| Val | Ala | Asn | Asn | Thr | Arg | Leu | Trp | Val | Tyr | Cys | Gly | Asn | Gly | Thr | Pro | | |
| | | | | 205 | | | | 210 | | | | | | 215 | | | |
| Asn | Glu | Leu | Gly | Gly | Ala | Asn | Ile | Pro | Ala | Glu | Phe | Leu | Glu | Asn | Phe | | |
| | | | 220 | | | | | 225 | | | | | 230 | | | | |
| Val | Arg | Ser | Ser | Asn | Leu | Lys | Phe | Gln | Asp | Ala | Tyr | Asn | Ala | Ala | Gly | | |
| | | 235 | | | | | 240 | | | | | 245 | | | | | |
| Gly | His | Asn | Ala | Val | Phe | Asn | Phe | Pro | Pro | Asn | Gly | Thr | His | Ser | Trp | | |
| | 250 | | | | | 255 | | | | | 260 | | | | | | |
| Glu | Tyr | Trp | Gly | Ala | Gln | Leu | Asn | Ala | Met | Lys | Gly | Asp | Leu | Gln | Ser | | |
| 265 | | | | | 270 | | | | | 275 | | | | | 280 | | |
| Ser | Leu | Gly | Ala | Gly | | | | | | | | | | | | | |
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<210> 3
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 <212> PRT
 <213> Artificial Sequence
 <220> oligonucleotide

<400> 3

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| Met | Ala | Thr | Val | Asn | Arg | Ser | Arg | His | His | His | His | His | His | His | His | His | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | | |
| Ile | Glu | Gly | Arg | Ser | Phe | Ser | Arg | Pro | Gly | Leu | Pro | Val | Glu | Tyr | Leu | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Gln | Val | Pro | Ser | Pro | Ser | Met | Gly | Arg | Asp | Ile | Lys | Val | Gln | Phe | Gln | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ser | Gly | Gly | Asn | Asn | Ser | Pro | Ala | Val | Tyr | Leu | Leu | Asp | Gly | Leu | Arg | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ala | Gln | Asp | Asp | Tyr | Asn | Gly | Trp | Asp | Ile | Asn | Thr | Pro | Ala | Phe | Glu | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Trp | Tyr | Tyr | Gln | Ser | Gly | Leu | Ser | Ile | Val | Met | Pro | Val | Gly | Gly | Gln | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Ser | Ser | Phe | Tyr | Ser | Asp | Trp | Tyr | Ser | Pro | Ala | Cys | Gly | Lys | Ala | Gly | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Cys | Gln | Thr | Tyr | Lys | Trp | Glu | Thr | Phe | Leu | Thr | Ser | Glu | Leu | Pro | Gln | | |

[illegible]

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<211> 403
<212> PRT
<213> Artificial Sequence
<220> oligonucleotide
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      20                      25                      30
Glu Ala Ala Ala Ser Ala Ile Gln Gly Asn Val Thr Ser Ile His Ser
      35                      40                      45
Leu Leu Asp Glu Gly Lys Gln Ser Leu Thr Lys Leu Ala Ala Ala Trp
  50                      55                      60
Gly Gly Ser Gly Ser Glu Ala Tyr Gln Gly Val Gln Gln Lys Trp Asp

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ala | Thr | Ala | Thr | Glu | Leu | Asn | Asn | Ala | Leu | Gln | Asn | Leu | Ala | Arg | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Ser | Glu | Ala | Gly | Gln | Ala | Met | Ala | Ser | Thr | Glu | Gly | Asn | Val | Thr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Met | Phe | Ala | Lys | Leu | Phe | Ser | Arg | Pro | Gly | Leu | Pro | Val | Glu | Tyr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Gln | Val | Pro | Ser | Pro | Ser | Met | Gly | Arg | Asp | Ile | Lys | Val | Gln | Phe |
| | | 130 | | | | | 135 | | | | | 140 | | | |
| Gln | Ser | Gly | Gly | Asn | Asn | Ser | Pro | Ala | Val | Tyr | Leu | Leu | Asp | Gly | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Arg | Ala | Gln | Asp | Asp | Tyr | Asn | Gly | Trp | Asp | Ile | Asn | Thr | Pro | Ala | Phe |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Trp | Tyr | Tyr | Gln | Ser | Gly | Leu | Ser | Ile | Val | Met | Pro | Val | Gly | Gly |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gln | Ser | Ser | Phe | Tyr | Ser | Asp | Trp | Tyr | Ser | Pro | Ala | Cys | Gly | Lys | Ala |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Gly | Cys | Gln | Thr | Tyr | Lys | Trp | Glu | Thr | Phe | Leu | Thr | Ser | Glu | Leu | Pro |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gln | Trp | Leu | Ser | Ala | Asn | Arg | Ala | Val | Lys | Pro | Thr | Gly | Ser | Ala | Ala |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ile | Gly | Leu | Ser | Met | Ala | Gly | Ser | Ser | Ala | Met | Ile | Leu | Ala | Ala | Tyr |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| His | Pro | Gln | Gln | Phe | Ile | Tyr | Ala | Gly | Ser | Leu | Ser | Ala | Leu | Leu | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Pro | Ser | Gln | Gly | Met | Gly | Pro | Ser | Leu | Ile | Gly | Leu | Ala | Met | Gly | Asp |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ala | Gly | Gly | Tyr | Lys | Ala | Ala | Asp | Met | Trp | Gly | Pro | Ser | Ser | Asp | Pro |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ala | Trp | Glu | Arg | Asn | Asp | Pro | Thr | Gln | Gln | Ile | Pro | Lys | Leu | Val | Ala |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asn | Asn | Thr | Arg | Leu | Trp | Val | Tyr | Cys | Gly | Asn | Gly | Thr | Pro | Asn | Glu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Leu | Gly | Gly | Ala | Asn | Ile | Pro | Ala | Glu | Phe | Leu | Glu | Asn | Phe | Val | Arg |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Ser | Ser | Asn | Leu | Lys | Phe | Gln | Asp | Ala | Tyr | Asn | Ala | Ala | Gly | Gly | His |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asn | Ala | Val | Phe | Asn | Phe | Pro | Pro | Asn | Gly | Thr | His | Ser | Trp | Glu | Tyr |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Trp | Gly | Ala | Gln | Leu | Asn | Ala | Met | Lys | Gly | Asp | Leu | Gln | Ser | Ser | Leu |
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| Gly | Ala | Gly | | | | | | | | | | | | | |

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<212> DNA

<213> Artificial Sequence

<220> oligonucleotide

<223> M. tuberculosis

<400> 5

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<212> DNA
<213> Artificial Sequence
<220> oligonucleotide

<400> 6
cgaactcgcc ggatcccgtg tttcgc 26

<210> 7
<211> 32
<212> DNA
<213> Artificial Sequence
<220> oligonucleotide

<400> 7
ggcaaccgcg agatctttct cccggccggg gc 32

<210> 8
<211> 27
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<400> 8
ggcaagcttg ccggcgcccta acgaact 27

<210> 9
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<400> 10
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<210> 11
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<400> 11

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44

<210> 12

<211> 20

<212> DNA

<213> Artificial Sequence

<220> oligonucleotide

<400> 12

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20